CLAIMS:

1. A method of determining a height of a point on a wire loop, comprising the steps of:

positioning a height gauge device over the point on the wire loop;

projecting incident light from the height gauge device for illuminating the point;

receiving with the height gauge device reflected light produced from the incident light; and

determining from a characteristic of the reflected light the height of the said point relative to a reference surface.

2. A method according to claim 1, wherein the height gauge device includes a triangulation type sensor.

3. A method according to claim 1, wherein the height gauge device includes a confocal type sensor.

4. A method according to claim 1, including the steps of, after forming the wire loop, projecting illumination lighting onto a predetermined portion of the wire loop and approximating a location of a highest position on the wire loop based upon characteristics of light reflected from the said location, and thereafter positioning the height gauge device over the location for determining the height of a point within the location.

5. A method according to claim 4, wherein an angle of incidence of the illumination lighting at the location is substantially normal to a profile of the wire loop at that location.

6. A method according to claim 4, including determining the heights of a plurality of points within the said location.

7. A method according to claim 1, including moving the height gauge device relative to the wire loop for determining the heights of a plurality of points on the wire loop.

8. A method according to claim 7, wherein the height gauge is moved relative to the wire loop while the wire loop is maintained substantially stationary.

9. A method according to claim 7, including moving the height gauge device relative to the wire loop along a scanning path such that incident light projected from the height gauge device intersects a length of the wire loop.

10. A method according to claim 9, wherein the scanning path intersects the lengths of a plurality of wire loops.

11. A method according to claim 9, wherein the scanning path intersects the length of the wire loop at a plurality of positions.

12. A method according to claim 11, including recording heights of points on the wire loop at each position where the scanning path intersects the wire loop.

13. A method according to claim 12, including the step of estimating a height of a point proximate a highest position on a wire loop based upon the heights of the wire loop recorded at the various positions where the scanning path intersects the wire loop.

14. A method according to claim 12, including the step of estimating a position of a highest point on a wire loop based upon the heights of the wire loop recorded at the various positions where the scanning path intersects the wire loop.

15. A method according to claim 1, including the step of changing a height of the height gauge device for determining a height of a point on another wire loop.

16. An apparatus for determining a height of a point on a wire loop, comprising:

a height gauge device positionable over the point on the wire loop for projecting incident light to illuminate the point and for receiving reflected light produced from the incident light; and

a processor coupled to the height gauge device for determining from a characteristic of the reflected light the height of the said point relative to a reference surface.

17. An apparatus according to claim 16, wherein the height gauge device includes a triangulation type sensor.

18. An apparatus according to claim 16, wherein the height gauge device includes a confocal type sensor.

19. An apparatus according to claim 16, including an illumination lighting system adapted to project illuminating light onto a predetermined portion of the wire loop and a light receptor adapted to receive light reflected from the said portion for approximating a location of a highest position on the wire loop based upon characteristics of the light reflected.

20. An apparatus according to claim 19, wherein the illuminating lighting system is configured such that an angle of incidence of the illuminating light projected at the location is substantially normal to a profile of the wire loop in that location.

21. An apparatus according to claim 16, including a positioning device configured to move the height gauge device relative to the wire loop for determining the heights of a plurality of points on the wire loop.

22. An apparatus according to claim 21, wherein the height gauge is coupled to the positioning device for movement while the wire loop is maintained substantially stationary.

23. An apparatus according to claim 21, including a scanning path comprising a path of relative movement between the height gauge device and the wire loop such that incident light projected from the height gauge intersects a length of the wire loop.

24. An apparatus according to claim 23, wherein the scanning path intersects the lengths of a plurality of wire loops.

25. An apparatus according to claim 23, wherein the scanning path intersects the length of the wire loop at a plurality of positions.

26. An apparatus according to claim 25, including a memory device for recording heights of points on the wire loop at each position where the scanning path intersects the wire loop.

27. An apparatus according to claim 26, including a processing device for estimating a height of a point proximate a highest position on a wire loop based upon the heights of the wire loop recorded at the various positions where the scanning path intersects the wire loop.

28. An apparatus according to claim 16, including an actuator coupled to the height gauge device for changing a height of the height gauge device relative to the wire loop.

29. An apparatus according to claim 28, wherein the motor is a linear motor comprising a voice coil positioned between and movable relative to permanent magnets.

30. An apparatus according to claim 16, wherein the height gauge device is positioned adjacent a wire bonding optics module.

31. An apparatus according to claim 16, wherein the height gauge device includes a laser diode for projecting incident light onto the point.

32. An apparatus according to claim 16, including a position sensitive device coupled to the height gauge device for receiving reflected light produced from the incident light.